

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 2000-NM-284-AD; Amendment 39-12682; AD 2002-06-05]

RIN 2120-AA64

Airworthiness Directives; Various Transport Category Airplanes Equipped With Air Traffic Control (ATC) Transponders Manufactured by Rockwell Collins, Inc.

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment adopts a new airworthiness directive (AD), applicable to various transport category airplanes equipped with certain Mode C air traffic control (ATC) transponders manufactured by Rockwell Collins, Inc. This amendment requires testing each transponder; replacing certain parts in any transponder that fails the initial test with new parts and performing additional test(s); and making repairs, as necessary, so that the transponder passes the test. This amendment is prompted by reports that indicate that the equipment used to conduct earlier tests of certain transponders did not detect certain malfunctions. An airplane equipped with such malfunctioning transponders could transmit inaccurate data concerning its altitude to a nearby airplane equipped with the traffic alert and collision avoidance system (TCAS II), causing the TCAS II to issue an erroneous resolution advisory to the pilot. The actions specified by this AD are intended to prevent transmission of inaccurate data concerning altitude from one airplane to another, which could cause the pilot receiving the data to change course, either ascending or descending, and possibly lead to a mid-air collision or near mid-air collision.

DATES: Effective April 26, 2002.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of April 26, 2002.

ADDRESSES: The service information referenced in this AD may be obtained from Rockwell Collins, Inc., 400 Collins Road, NE., Cedar Rapids, Iowa 52498. This information may be examined at the Federal Aviation Administration (FAA), Transport Airplane Directorate, Rules Docket, 1601 Lind Avenue, SW., Renton, Washington; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

FOR FURTHER INFORMATION CONTACT: Elizabeth Zurcher, Aerospace Engineer, FAA, Seattle Aircraft Certification Office, Systems and Equipment Branch, ANM-130S, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 227-1674; fax (425) 227-1181.

SUPPLEMENTARY INFORMATION: A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) to include an airworthiness directive (AD) that is applicable to various transport category airplanes equipped with certain Mode C air traffic control (ATC) transponders manufactured by Rockwell Collins, Inc., was published in the Federal Register on January 5, 2001 (66 FR 1054). That action proposed to require testing each transponder; replacing certain parts in any transponder that fails the initial test and performing additional test(s); and making repairs, as necessary, so that the transponder passes the test.

Comments

Interested persons have been afforded an opportunity to participate in the making of this amendment. Due consideration has been given to the comments received. Two commenters state that the airplanes they operate are not affected by the proposed rule.

Change Paragraphs (a) and (b)

One commenter states that Rockwell Collins Service Information Letter (SIL) 00-1, dated May 25, 2000, as specified in the preamble of the proposed rule, implies that the only approved "ramp-tester" to test their 621A-3 transponder is the ATC-601. However, the commenter indicates that all "approved" transponder ramp-testers must meet the criteria set forth in Federal Aviation Regulation 91.413, Part 43, Appendix F. The commenter asks if this proposed AD will change those criteria, and states that, if not, operators should be able to use any transponder ramp-tester that meets those requirements. The commenter adds that verification that a ramp-tester meets the FAR requirements can be confirmed by the manufacturer's technical data sheets and current calibration certificates.

The FAA does not agree that "any" transponder ramp-tester meets the requirements in paragraphs (a) and (b) of the final rule. As specified in the preamble of the proposed rule, "The document (SIL 00-1), subtitled '621A-3 Transponder Overhaul Manual Test Equipment Modification Recommendation,' indicates that some operators using ATC ramp tester model number 601 (ATC-601) to verify performance of Mode C transponders with single Gillham encoded altitude input were experiencing a high reject rate of the 621A-3 transponders manufactured by Rockwell Collins, Inc. The service letter states that the ATC-601 ramp tester is capable of detecting out-of-tolerance errors in the framing pulse width, whereas the ATC-600 ramp tester previously used to test the transponders did not detect these pulse width errors." We concur that certain other ramp-testers may be used, and we have added a new Note 2 (and renumbered subsequent notes) to this final rule that specifies "approved" transponder ramp-testers.

Another commenter states that, to perform the pulse width test specified in paragraph (a) of the proposed rule, a bench check of the transponder is required, and adds that operators may be removing properly operating transponders to comply with the proposed rule. The commenter asks that an option be given to allow operators to perform a functional test with a Mode S ATC test set per the applicable airplane maintenance manual. The commenter adds that, if the transponder passes the functional test, it would not be necessary to remove the transponder from the airplane for a bench check.

We partially agree with the commenter. We do not agree that a bench check of the transponder is required to perform the pulse width test; the pulse width test can be done either with the transponder on the airplane or by removing the transponder and doing a bench check, depending on the capabilities of the test equipment used. We agree that the Mode S ATC is an approved test set, and that test set is specified in Note 2 of this final rule.

The same commenter asks that the final rule specify that any bench check done on a transponder before the effective date of the final rule, in accordance with the service information specified in the proposed rule, is acceptable for compliance with the pulse width tests specified in paragraphs (a) and (b) of the proposed rule. The commenter adds that if the FAA agrees to include the bench check, submission of the reporting requirements specified in paragraph (d) of the proposed rule should be amended to allow for a compliance time of more than 60 days after completion of the bench check. The commenter recommends a 30-day grace period after the effective date of the final rule for the reporting requirement.

We agree and have added a new Note 3 to this final rule to specify that bench checks used to perform the tests per Rockwell Collins Air Transport Systems Overhaul Manual with Illustrated Parts List, Temporary Revision No. 34-44-00-38, dated April 20, 2000, are acceptable for compliance with paragraph (a) of this final rule. Additionally, we have changed the reporting requirement specified in paragraph (d) of this final rule to specify that the report may be submitted within 60 days AFTER the effective date of the AD.

Another commenter notes that paragraph (b) of the proposed rule specifies that the transmitter tube and resistor be replaced (if any malfunction is detected), per Rockwell Collins Service Bulletin 621A-3-34-21, Revision 1, dated November 14, 1975. The commenter states that the referenced service bulletin specifies removal of the resistor (only) on units having serial numbers 7192 and below. The commenter interprets paragraph (b) of the proposed rule as requiring replacement of the transmitter tube and resistor regardless of the unit serial number. The commenter recommends paragraph (b) of the proposed rule be changed to specify that resistor removal is only required on units with serial numbers 7192 and below.

We concur with the commenter and have changed paragraph (b) of the final rule to add paragraphs (b)(1) and (b)(2) to require replacement of the transmitter tube and resistor for transponders having serial numbers up to and including 7192; and replacement of the transmitter tube (only) for transponders having serial numbers 7193 and subsequent.

Credit for Transponders Previously Modified

One commenter asks if the proposed rule will apply to transponders that have already been modified using the procedures specified in Rockwell Collins, Inc. SIL 00-1, which references Rockwell Collins Service Bulletin 621A-3-34-21, Revision 1, dated November 14, 1975, cited in the proposed rule as the appropriate source of service information doing the replacement.

We agree that if the replacement required by paragraph (b) of this final rule was done prior to the effective date of the AD using the service information cited in the final rule, it is acceptable for compliance. Therefore, we have added a new Note 4 to this final rule (and renumbered subsequent notes) that specifies previous modification of the transponder is acceptable for compliance with this AD.

Change Paragraph (c)

One commenter states that paragraph (c) of the proposed rule cites the air data computer or interconnect wiring as possibly being defective. The commenter notes that this is in error because the pulse width cannot be affected by the air data computer or its wiring. The commenter adds that the pulse width can be affected by antenna/wiring faults.

We agree with the commenter and have changed paragraph (c) of this final rule to remove the references to repair of the air data computer or wiring connections.

The same commenter notes that paragraph (c) of the proposed rule specifies that, if malfunction of the transponder is detected, the transponder must be repaired prior to further flight. The commenter asks that the final rule allow for continued operation of the airplane in accordance with the Minimum Equipment List (MEL), provided the defective transponder is not operated.

Note 5 of this final rule (which was Note 2 of the proposed rule) addresses the commenter's concern. That note specifies that the airplane may be operated in accordance with the provisions and limitations specified in the FAA-approved Master Minimum Equipment List (MMEL), provided that only one Mode C transponder on the airplane is inoperative.

Delete Paragraph (c)

One commenter states that paragraphs (a) and (b) of the proposed rule discuss actions for off-wing shop tests per the transponder overhaul manual (OM), but paragraph (c) implies that an on-wing test must be accomplished. The commenter asks that paragraph (c) of the proposed rule be deleted. The commenter notes that any transponder tested in accordance with the OM will not be returned to service unless it can pass the pulse width test. The commenter adds that both the aircraft wiring and interfacing equipment were previously tested per AD 99-23-22 R1, amendment 39-11473 (64 FR 70181, December 16, 1999), which addressed concerns specific to the Rockwell Collins 621A-3 transponders. The commenter states that no additional testing should be required.

We do not agree with the commenter. Paragraph (c) of this final rule requires repair of the transponder if a malfunction is detected; no on-wing test is required by that paragraph. No change to the final rule is necessary in this regard.

Change to Final Rule

We have changed the point of contact for information concerning this final rule to Elizabeth Zurcher, Aerospace Engineer, FAA, Seattle Aircraft Certification Office, Systems and Equipment Branch, ANM-130S.

Conclusion

After careful review of the available data, including the comments noted above, the FAA has determined that air safety and the public interest require the adoption of the rule with the changes previously described. The FAA has determined that these changes will neither increase the economic burden on any operator nor increase the scope of the AD.

Cost Impact

There are approximately 800 airplanes with transponders with the affected part in the worldwide fleet. The FAA estimates that approximately 400 airplanes of U.S. registry will be affected by this AD, that it will take approximately 4 work hours per airplane to accomplish the required test, and that the average labor rate is \$60 per work hour. Based on these figures, the cost impact of the AD on U.S. operators is estimated to be \$96,000, or \$240 per airplane.

The cost impact figure discussed above is based on assumptions that no operator has yet accomplished any of the requirements of this AD action, and that no operator would accomplish those actions in the future if this AD were not adopted. The cost impact figures discussed in AD rulemaking actions represent only the time necessary to perform the specific actions actually required by the AD. These figures typically do not include incidental costs, such as the time required to gain access and close up, planning time, or time necessitated by other administrative actions.

Regulatory Impact

The regulations adopted herein will not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, it is determined that this final rule does not have federalism implications under Executive Order 13132.

For the reasons discussed above, I certify that this action (1) is not a "significant regulatory action" under Executive Order 12866; (2) is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and (3) will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act. A final evaluation has been prepared for this action and it is contained in the Rules Docket. A copy of it may be obtained from the Rules Docket at the location provided under the caption ADDRESSES.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

PART 39--AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

Sec. 39.13 [Amended]

2. Section 39.13 is amended by adding the following new airworthiness directive:

AIRWORTHINESS DIRECTIVE



Aircraft Certification Service
Washington, DC

U.S. Department
of Transportation
**Federal Aviation
Administration**

We post ADs on the internet at "av-info.faa.gov"

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

2002-06-05 Transport Category Airplanes: Amendment 39-12682. Docket 2000-NM-284-AD.

Applicability: Transport category airplanes, certificated in any category, equipped with Rockwell Collins Mode C 621A-3 Air Traffic Control (ATC) transponder(s), part number (P/N) 522-2703-XXX (where XXX is any series number).

Note 1: This AD applies to each airplane identified in the preceding applicability provision, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For airplanes that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (e) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

Compliance: Required as indicated, unless accomplished previously.

To prevent transmission of inaccurate data concerning altitude from one airplane to another, which could cause the pilot receiving the data to change course, either ascending or descending, and possibly lead to a mid-air collision or near mid-air collision, accomplish the following:

Testing

(a) Within 6 months after the effective date of this AD: Perform a pulse width test to detect malfunctions of any Mode C 621A-3 ATC transponder(s) equipped with P/N 522-2703-XXX, where XXX is any part number, in accordance with Rockwell Collins Air Transport Systems Overhaul Manual with Illustrated Parts List, Temporary Revision No. 34-44-00-38, dated April 20, 2000.

Note 2: Pulse width tests done using TIC-49, ATC-601, ATC-601A, or ATC-1400A ramp or bench testers meet the applicable test requirements specified in paragraphs (a) and (b) of this AD.

Note 3: Previous checks used to perform the test specified in paragraph (a) of this AD, per Rockwell Collins Air Transport Systems Overhaul Manual with Illustrated Parts List, Temporary Revision No. 34-44-00-38, dated April 20, 2000, are considered acceptable for compliance with paragraph (a) of this AD.

Replacement

(b) If the pulse width test required by paragraph (a) of this AD detects malfunction of a transponder, prior to further flight, perform the requirements specified in paragraph (b)(1) or (b)(2) of this AD, as applicable, in accordance with Rockwell Collins Service Bulletin 621A-3-34-21, Revision 1, dated November 14, 1975.

(1) For transponders having serial numbers up to and including 7192: Replace the transmitter tube and resistor with a new tube and resistor and repeat the pulse width test required by paragraph (a) of this AD.

(2) For transponders having serial numbers 7193 and subsequent: Replace the transmitter tube with a new tube and repeat the pulse width test required by paragraph (a) of this AD.

Note 4: Accomplishment of the replacement specified in paragraph (b)(1) or (b)(2) of this AD, as applicable, prior to the effective date of this AD, per Rockwell Collins Service Information Letter (SIL) 00-1, dated May 25, 2000, is acceptable for compliance with the applicable replacement required by paragraph (b)(1) or (b)(2) of this AD.

Repair

(c) If the follow-up pulse width test required by paragraph (b) of this AD detects malfunction of a transponder: Prior to further flight, repair the transponder in accordance with the applicable Mode C transponder component maintenance manual and airplane maintenance manual. If the repair information is not available in the applicable manual, prior to further flight, repair the transponder in accordance with a method approved by the Manager, Seattle Aircraft Certification Office (ACO), FAA.

Note 5: The airplane may be operated in accordance with the provisions and limitations specified in the FAA-approved Master Minimum Equipment List (MMEL), provided that only one Mode C transponder on the airplane is inoperative.

Reporting Requirement

(d) Submit a report of the results (both positive and negative) of the tests required by paragraphs (a) and (b) of this AD, at the applicable time specified in paragraph (d)(1) or (d)(2) of this AD, to: Elizabeth Zurcher, Aerospace Engineer, FAA, Seattle ACO, Systems and Equipment Branch, ANM-130S, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; fax (425) 227-1181. The report must include the part number of the Mode C transponder(s) and whether corrective action was required. Information collection requirements contained in this regulation have been approved by the Office of Management and Budget (OMB) under the provisions of the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 et seq.) and have been assigned OMB Control Number 2120-0056.

(1) For airplanes on which the pulse width test (using a bench check, if necessary) is accomplished after the effective date of this AD: Submit the report within 60 days after performing the test required by paragraph (a) or (b) of this AD, as applicable.

(2) For airplanes on which the pulse width test has been accomplished prior to the effective date of this AD: Submit the report within 60 days after the effective date of this AD.

Alternative Methods of Compliance

(e) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Seattle ACO. Operators shall submit their requests through an appropriate FAA Principal Maintenance or Avionics Inspector, who may add comments and then send it to the Manager, Seattle ACO.

Note 6: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Seattle ACO.

Special Flight Permits

(f) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the airplane to a location where the requirements of this AD can be accomplished.

Incorporation by Reference

(g) Except as provided by paragraph (c) of this AD: The actions shall be done in accordance with Rockwell Collins Air Transport Systems Overhaul Manual with Illustrated Parts List, Temporary Revision No. 34-44-00-38, dated April 20, 2000; and Rockwell Collins Service Bulletin 621A-3-34-21, Revision 1, dated November 14, 1975; as applicable. Revision 1 of Rockwell Collins Service Bulletin 621A-3-34-2 contains the following effective pages:

Page No.	Revision level shown on page	Date shown on page
1, 4	1	Nov. 14, 1975.
2, 3, 5/6	Original	June 15, 1975.

This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from Rockwell Collins, Inc., 400 Collins Road NE; Cedar Rapids, Iowa 52498. Copies may be inspected at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

Effective Date

(h) This amendment becomes effective on April 26, 2002.

Issued in Renton, Washington, on March 13, 2002.

Vi L. Lipski,

Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. 02-6793 Filed 3-21-02; 8:45 am]

BILLING CODE 4910-13-P